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Modules

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DRAFT

This article is being reviewed for completeness and technical accuracy.

A system called "modules" to centralize the location of licensed products from vendors or software from public domain is installed on all NAS HECC systems.

To use the modules commands, you have to do either one of the following first:

1. Source the following files in your .cshrc or .profile

in .cshrc (for csh users)

```
source /usr/local/lib/global.cshrc
```

in .profile (for bash users)

```
source /usr/local/lib/global.profile
```

2. In the shell that you want to use the module commands, do one of the following:

(csh users)

```
%source /usr/share/modules/init/csh
```

(bash users)

```
%. /usr/share/modules/init/bash
```

The following are useful module commands to remember:

- %module avail

to find out what modules are available.

- %module list

to list which modules are loaded in your environment.

- %module purge

to unload all loaded modulefiles.

- `%module load module_name1 module_name2 ... module_nameN`

to load the desired modules.

- `%module switch old_module_name new_module_name`

to switch between two modules.

- `%module show module_name`

to show changes to the environment that will happen if you load *module_name*.

Table of All Modules

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The table below shows the available software managed through modules on Pleiades and/or Columbia. To request installation of a software as a module, please send an email to support@nas.nasa.gov

Note that the name of a software module may contain:

- software name
- vendor name
- version number
- varieties such as what compiler and/or what library is used to build the software

For example,

- *comp-intel/11.1.072* represents the Intel Compiler version 11.1.072.
- *mpi-sgi/mpt.2.04.10789* represents the SGI MPI library version mpt.2.04.10789.
- *mpi-mvapich2/1.4.1/intel* represents the MVAPICH2 MPI library version 1.4.1 built with an Intel compiler.

Use the "module avail" command to see all the available versions and provide the full name of a module when you decide to load a module.

Available Modules (as of 30 August 2010)

Software	Platforms	Function
Intel compiler	Pleiades/Columbia	Compiler
Intel mkl	Pleiades/Columbia	Math/Scientific Library
Intel mpi	Pleiades/Columbia	MPI Library
SGI mpt	Pleiades/Columbia	MPI Library
SGI scsl	Columbia	Math/Scientific Library
automake	Columbia	Makefile Tool
boost	Columbia	C++ Library
cpan	Pleiades	Comprehensive Perl Archive Network
cscope	Columbia	Source Code Browsing Tool
drm	Pleiades	X Window Library Tool
eclipse	Pleiades	Software Development Environment
emacs	Pleiades	Text Editor
ensight	Pleiades/Columbia	Data Visualization and Analysis Tool

fieldview	Pleiades/Columbia	Data Visualization and Analysis Tool
flex	Pleiades	Text Scanner Generation Tool
fluent	Pleiades	CFD Modeling Application
gaussian	Pleiades/Columbia	Quantum Chemistry Application
gcc	Pleiades/Columbia	GNU C/C++ Compiler
gd	Pleiades/Columbia	Images Creation Library
git	Pleiades/Columbia	Version Control System
glib	Pleiades/Columbia	Low-level Core Library
gmp	Pleiades/Columbia	Math Library
gnuplot	Pleiades/Columbia	Data Visualization Tool
grace	Pleiades/Columbia	Data Visualization Tool
grads	Pleiades/Columbia	Data Visualization and Analysis Tool
gridgen	Pleiades/Columbia	CFD Grid Generation Tool
gsl	Pleiades/Columbia	GNU Scientific Library
hcss	Pleiades/Columbia	Herschel Common Science System
hdf4	Pleiades/Columbia	I/O Library and Tools
hdf5	Pleiades/Columbia	I/O Library and Tools
idl	Pleiades/Columbia	Data Visualization and Analysis Tool
idn	Pleiades	GNU Libidn
imagemagick	Pleiades/Columbia	Image Tool
java-sdk	Columbia	Programming Language
jpeg	Columbia	Image Tool
jvm	Pleiades	Java Virtual Machine
libxml	Columbia	C Parser and Toolkit
lsdyna3d	Pleiades/Columbia	Finite Element Application
matlab	Pleiades/Columbia	Numerical Computing Environment and Programming Language
mlp	Columbia	Multi-Level Parallelism Library
mpfr	Pleiades	Multiple-Precision Floating-point Computations Library
mpich2	Columbia	MPI Library
mvapich2	Pleiades	MPI Library
ncarg	Pleiades/Columbia	Graphics Library for Scientific Data
ncl	Pleiades/Columbia	NCAR Command Language
nco	Pleiades/Columbia	netCDF Operators
netcdf	Pleiades/Columbia	I/O Library
octave	Pleiades/Columbia	Numerical Computations Language
paraview	Pleiades	Data Visualization and Analysis Tool
parmetis	Pleiades/Columbia	Math/Numerical Library
pdf	Columbia	PDF File Generation Library

perl	Columbia	Programming Language
petsc	Columbia	Math/Numerical Library
parallel netcdf	Pleiades/Columbia	Parallel I/O Library
png	Columbia	Portable Network Graphics Format
pyMPI	Columbia	MPI Program Development with Python
python	Pleiades/Columbia	Programming Language
ruby	Pleiades	Programming Language
svn	Pleiades/Columbia	Revision Control Application
swig	Pleiades/Columbia	Software Development Tool
tcl-tk	Pleiades/Columbia	Scripting Language
tecplot	Pleiades/Columbia	Data Visualization and Analysis Tool
texlive	Pleiades	TeX System Application
totalview	Pleiades/Columbia	Debugger
udunits	Pleiades/Columbia	Data Format Library
visit	Pleiades/Columbia	Data Visualization and Analysis Tool
xv	Pleiades	Images Display Application
xxdiff	Pleiades	Graphical File And Directories Comparator And Merge Tool
yaml	Pleiades/Columbia	Human-Readable Data Serialization Format
zlib	Columbia	Data Compression Library